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ABSTRACT

An experimental bilingual program with a bicultural emphasis was initiated in 3 Utah schools: (1) to prevent retardation in academic areas by providing instruction in all subject matter areas in the native language of the child, (2) to build a positive self-image by providing lessons on the heritage of the Navajo people and by developing a bicultural approach in which teachers furnish models of successful cultural synthesis, (3) to develop closer communication and mutual understanding between parents and teachers, and (4) to develop a curriculum reflecting the needs of a people with a rich cultural heritage who are forced to make accommodations to the economics of another culture. Staff training was conducted under contract with Birgham Young University using pre-school and bi-monthly workshops. Students participating in the program ranged in age from 5 to 7 years and were in kindergarten or first grade. Curriculum content was that required by the district and state, with the exceptions of instruction in history and culture of Indians (with an emphasis on the Navajo) and the instruction of English as a second language. Program evaluation yielded the conclusions that: (1) the bilingual program was accepted with enthusiasm by parents, (2) children in bilingual classrooms were maintaining self-images as positive as Navajo children who had been more highly integrated into the Anglo culture, and (3) academic achievement of Navajo children in bilingual classrooms was equal to or greater than that of Navajo children living in or near Anglo communities. (JH)

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BILINGUAL EDUCATION IN SAN JUAN COUNTY, UTAH:

A CROSS CULTURAL EMPHASIS

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The plight of the Navajo Indians in San Juan County, Utah has been one of frustration and hardship. The Navajos have been left to fend for themselves in two societies without being adequately prepared to do so. Illiteracy has left them without the tools to compete for employment in the white man's society. The phrase, "the last hired and the first fired," has regularly applied to them. Moreover, the white man's encroachment on their lands has precluded isolation in a totally Indian society. Navajos in San Juan County find themselves in the crossroads of two cultures, and they are being forced by their heritage and native cultural background to live in one and by economic necessity to find work in the other. A major problem facing the Navajo as a people is the perpetuation of the heritage and integrity of a proud people as they make accommodations to this new and different culture out of economic necessity.

Approximately 35 percent of the residents of San Juan County are on public assistance. Of those on welfare over 95 percent are Indian. This latter figure includes about 65 percent of the Indian people in the county.

Education is the key to the successful synthesis of these two alien cultures, which in turn is the key to economic stability for the Indian people. However, in the past education was considered in terms of the white man's education. The young Navajo was forbidden to speak his native tongue, he was taught that that which he had learned the first five or six years of his life was to be discarded, his standard of cleanliness was ridiculed, and he was faced with a white authoritarian figure.

The Navajo people are not different from others in their desire to learn and to move freely in their native environment. They are also aware that if economic and cultural advancement is to take place they

must extend their knowledge beyond the native heritage. Navajo parents are ready and willing to have their children attend schools with the Anglo-American. However, they do not want the destruction of their existing culture. Education, therefore, must be a cross-cultural program.

The student population of the San Juan School District is comprised of approximately 20 percent Navajo Indians. Mexican Hat, Montezuma Creek, and Bluff elementary schools contain the greatest concentration of Indian students. These studentbodies range from 60 to over 95 percent Navajo, most of which are non-English speaking as they enter school for the first time.

Kent D. Tibbitts, in a study conducted during the 1967-1968 school year with San Juan High School students, pointed out that 40 percent of the students' fathers had no formal education and 59 percent of their mothers had never enrolled in school. Furthermore, less than half the fathers were rated as speaking English "fairly well" or better while less than one-fourth of the mothers could communicate well in English. Over one-fourth of the mothers neither spoke nor understood English. (See Table 1.) The language problem was further emphasized in the Tibbitts' report by the finding that in only about one in four Navajo homes was English spoken "often." Data in Table 2 indicate the severity of the problem. It can be noted that English was "never" spoken in 22 percent of the Navajo homes. These data were derived from a study of high school students in the area. While a study has not been made, it can be inferred that the problem is even more acute for the parents of elementary school children who live exclusively on the reservation.

It has been the practice in San Juan to retain the students who have had little or no English speaking experience in the home for two years in the first grade to give them time to make up deficiencies in the English

Table 1

Ability of Parents of 1967-1968 San Juan High School
Navajo Students To Use The English Language

Ability Rating	Percent Father	Mother
Very Well	14	12
Fairly Well	27	12
Not Very Well	36	24
Only Understands But Does Not Speak English	12	22
Does Not Understand Or Speak English At All	10	28

Table 2

Frequency That English Is Spoken In Home Of Navajo Indian Students Attending San Juan High School 1967-1968

Frequency	Percent
Often	27
Sometimes	50
Never	22

language. The practice has been detrimental to the students' academic progress and to their conceptualization of themselves and their culture.

An alternative approach to educating the Navajo youngster involves the use of a bilingual program in which a bicultural emphasis is provided. Such a program was planned, proposed to the Federal Government for funding, funded, and initiated in the 1969-1970 school year.

PROGRAM OBJECTIVES

The major objectives of the project fall into four general categories. The first objective is to prevent retardation in academic areas while the student learns the language of the unfamiliar culture by providing instruction in all subject matter areas in the language the child understands best. The second objective is to build a positive self-image of all children enrolled in the project schools by providing lessons concerning the heritage of the Navajo people and developing a bicultural approach to education in which the teachers furnish models of successful cultural syntheses. The third objective is to develop closer communication and mutual understanding between parents and teachers, especially if teachers and parents are of different cultures. The fourth objective is the development of a curriculum which reflects the needs of a people with a rich cultural heritage who are forced to make accommodations to the economics of another culture. The development of techniques and materials to be used in the classroom is part of this last objective.

PROGRAM PROCEDURES

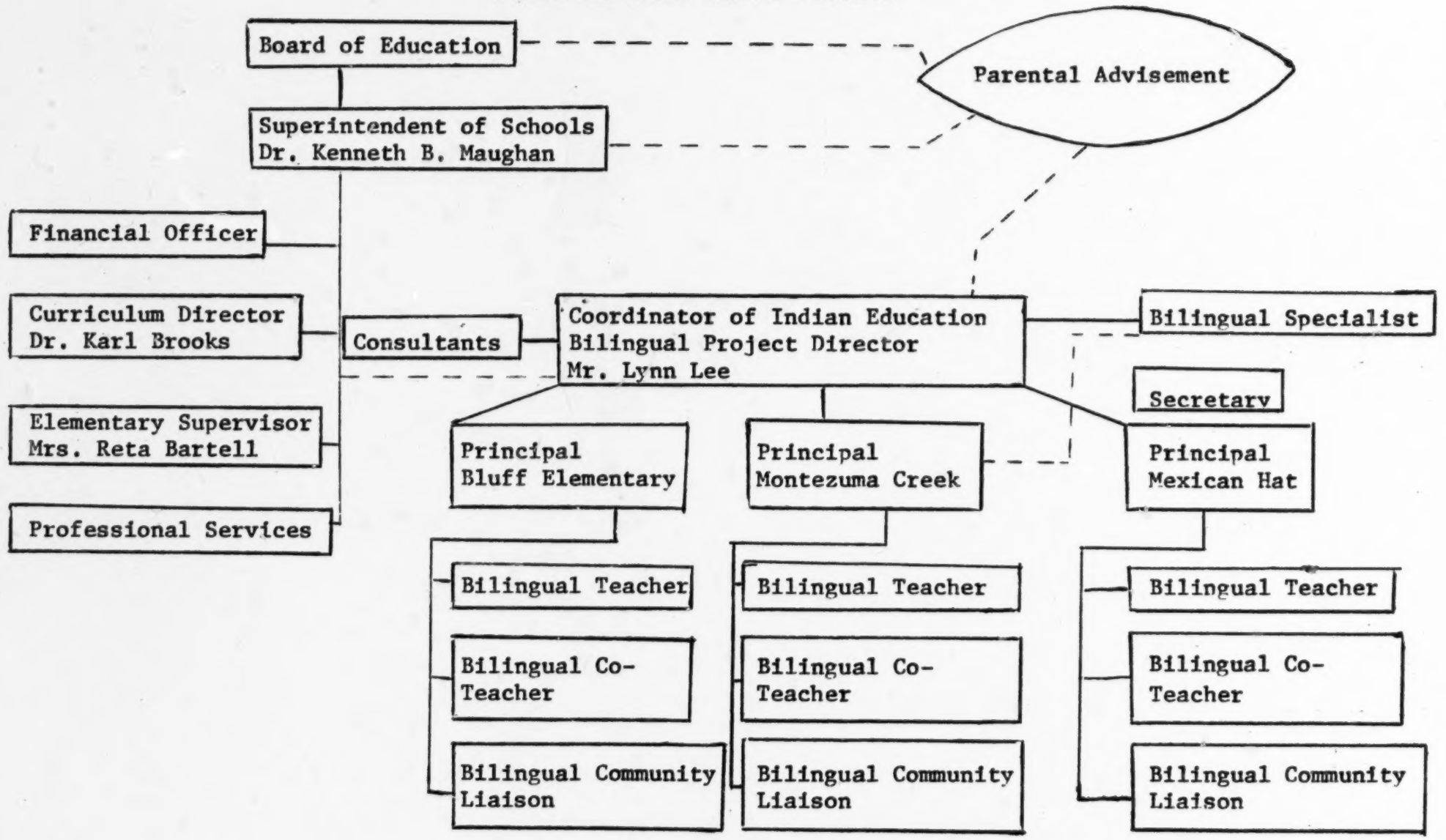
It has not been necessary to alter the basic school district staff organization to accommodate the bilingual instructional and administrative

staff. (See Table 3.) The position of Coordinator of Indian Education was previously created to coordinate all efforts in the area of special education for the Indian. He became the director of the bilingual program. A bilingual specialist was brought in to provide specific instructional aid to the teachers, and teaching teams composed of a fully certificated non-Indian teacher and a Navajo paraprofessional were created. The long-range goal is to hire a fully certificated bilingual Navajo to work with a fully certificated non-Indian; however, since Navajo teachers with these qualifications can not presently be found, Indians who are nearing completion of their college training have been employed to work with certificated teachers as paraprofessionals. Arrangements have been made through a Career Opportunities Program to give non-certificated bilingual teachers training leading to professional status in the teaching profession.

Staff training in terms of the program components was conducted under contract with Brigham Young University with pre-school and bi-monthly workshops. Preassessment was made to determine whether the staff had the requisite entry understandings and behaviors for which the training was to be given. Behavioral objectives which could be demonstrated during instructional involvement with the children were developed by the Brigham Young University consultants and were presented to the teaching teams at the beginning of the workshops. Instruction in the workshops was designed to promote the performance of the teaching behaviors explicitly stated in the behavioral objectives. The evaluation procedures for the workshop were designed such that supervisors, the project director, the bilingual specialist, and the elementary supervisor could observe the actual performance specified in the objectives in the classroom during the instructional act. Anecdotal records were kept and modifications in the training program were instituted as needed.

Table 3

ORGANIZATIONAL CHART FOR BILINGUAL PROJECT RELATIONSHIP
WITHIN SAN JUAN SCHOOL DISTRICT



Six teaching teams were organized, two for each of the three experimental schools, Bluff Elementary, Montezuma Creek, and Mexican Hat. Each instructional team cooperatively planned and implemented instruction for students under its care. Each teacher's talents were utilized where they best met student needs at the specific time. The certificated teacher, however, was designated to assume responsiblity for securing cooperative teaching effort and student achievement.

Students participating in the program ranged in age from five to seven years and were in either the kindergarten or first grade of the respective schools. The curriculum content was that required by district and state. For the target population, the native language, Navajo, was used as the communication medium in teaching subject matter content. Thus, the student was learning subject matter concepts and skills without having to cope with learning to think and meaningfully communicate about these concepts and skills in another language. Every effort was made to have the conceptual or skill referent of the subject matter drawn from the target child's "real world." Where the actual referent was not available to bring to the classroom or the child to it, the best representation nearest to the referent was selected. Thus, visual and auditory materials were utilized to a greater degree than reliance upon the written word. Materials were developed where they did not exist. The resources of the community, especially knowledgeable Navajos, were utilized. The intent was to make the target child as knowledgeable of the concepts and skills of the curriculum in his native tongue as the non-Indian child of equal ability would be in English at the end of an approximately equal period of time.

Instruction in the history and culture of Indians with an emphasis on the Navajo was undertaken to enhance the target child's self-image and increase the non-Indian's appreciation of and empathy with his Indian

friends. This type of instruction was utilized as a primary vehicle in getting parental and tribal involvement with the school program. Indian stories, legends, music, and art were solicited from as many sources as were available. Also, contributions by Indians in such areas as agriculture and medicine were researched and made available to students in lesson materials. All materials dealing with the Indian culture were screened by local community Indian leaders.

English was taught in the classroom as a second language. Only when the target child's mastery of English warranted it was English used to review subject matter learned in the native tongue. Gradually instruction in new content was introduced in English. However, when needed there was no hesitation to use Navajo to assess understanding or to help the student to conceptualize an idea or properly perform a skill. The time sequence of the program components, the workshops, the study of content in Navajo, the study of Navajo culture, the study of English as a second language (ESL), the involvement of parents, and the evaluation, is given in Table 4.

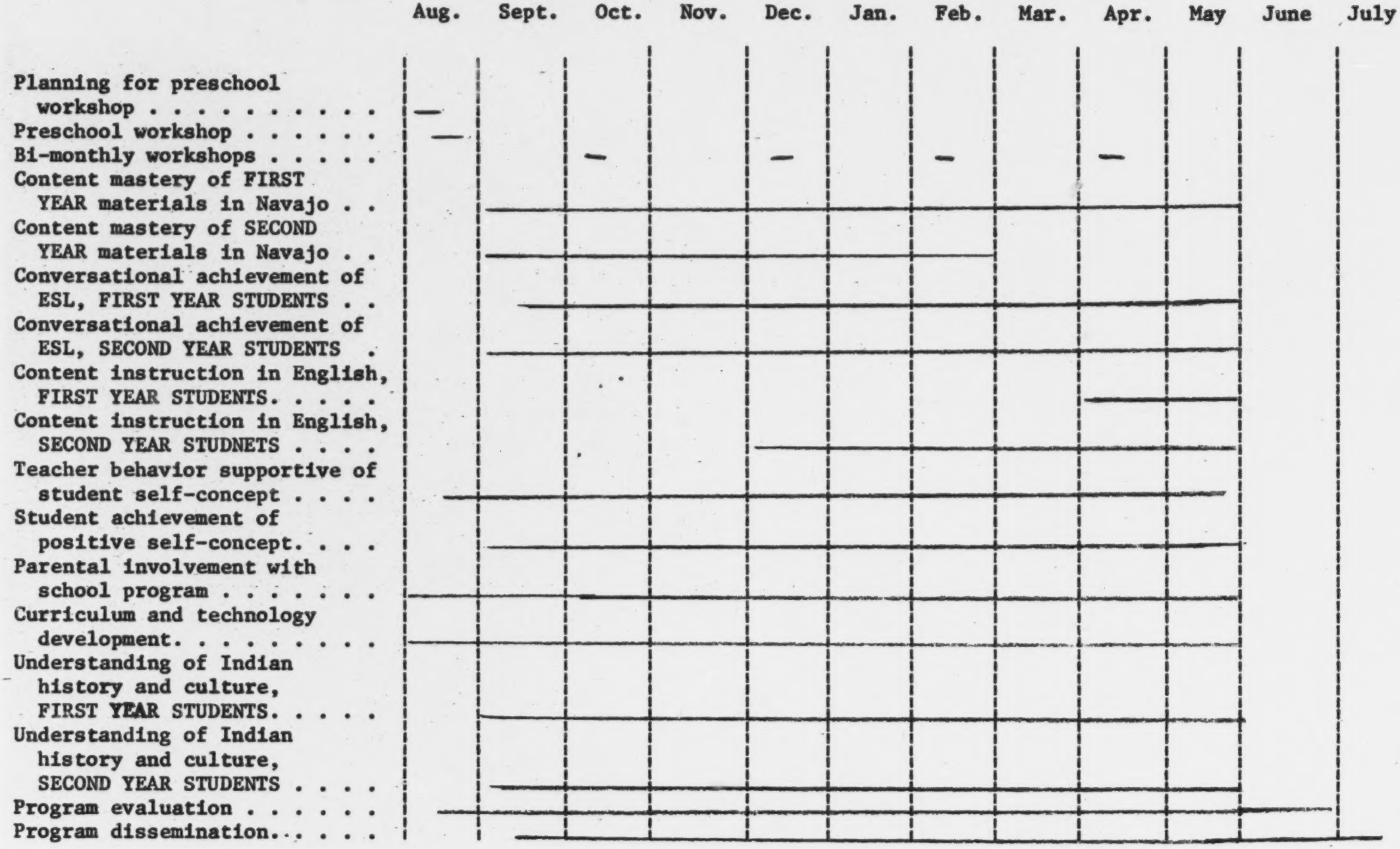
Three liaison persons were employed to maintain contact between the home and the school. These people were fluent in both languages, and they functioned as guides and interpreters for parents visiting schools. Their major function was to explain the school program to the parents and the parental attitudes to the school staff.

EVALUATION

Schools most nearly like the project schools were selected as control schools. These schools, however, were located in Blanding, Utah, some thirty miles from the border of the Navajo reservation. Navajo children attending the control schools were from families living in or near the town of Blanding. Some of the parents were employed in positions which required

Table 4

TIME SEQUENCE FLOW CHART RELATING TO PROGRAM COMPONENTS


Aug.
Sept.
Oct.
Nov.
Dec.
Jan.
Feb.
Mar.
Apr.
May
June
July
Planning for preschool workshop . . . . . .
Preschool workshop . . . . . .
Bi-monthly workshops . . . . . .
Content mastery of FIRST YEAR materials in Navajo . .
Content mastery of SECOND YEAR materials in Navajo . .
Conversational achievement of ESL, FIRST YEAR STUDENTS . .
Conversational achievement of ESL, SECOND YEAR STUDENTS .
Content instruction in English, FIRST YEAR STUDENTS. . . . .
Content instruction in English, SECOND YEAR STUDNETS . . . .
Teacher behavior supportive of student self-concept . . . .
Student achievement of positive self-concept. . . .
Parental involvement with school program . . . . . .
Curriculum and technology development. . . . . .
Understanding of Indian history and culture, FIRST YEAR STUDENTS. . . . .
Understanding of Indian history and culture, SECOND YEAR STUDENTS . . . .
Program evaluation . . . . . .
Program dissemination. . . . . .

a basic knowledge of English. Navajo children had interaction with the Anglo children outside the school, a situation which did not generally exist for children in the project schools. This led to the hypothesis that children in the project schools would achieve academically and would develop self-concept traits equal to or greater than children in the control schools. In the past, children in the project schools had not progressed as rapidly as children in the control schools. It was therefore, believed that the project would be a success if project school children could "keep up" with Navajo children in the control schools. Data for determining bilingual project schools are contained in Table 5. The number of subjects in the sub-categories is illustrated in Table 6.

To acquire baseline data all kindergarten and first grade children in the project schools and randomly selected kindergarten and first grade children in the control schools were tested in September 1969. Tests used in the knidergarten were the Anton Brenner Developmental Gestalt Test of School Readiness (BGT) and the California Test of Personality (CTP). Both tests were interpreted to the child if he did not readily understand English. The Metropolitan Readiness Test (MRT) and the California Test of Personality were administered as pre-tests for first grade children. Subjects in all schools were involved in oral conversation using the English language. After rapport had been established a tape recorder was engaged to record the oral usage of the English language for each subject.

In May, 1970, selected subjects in both experimental and control groups were again tested. Kindergarten children were tested with the CTP and the MRT while the first grade children were tested using the CTP and the Metropolitan Achievement Test. All subjects were engaged in an oral English conversation and their speaking was magnetically recorded. Oral speaking episodes were randomly mixed as to pre and post experiences and

Table 5

SAN JUAN SCHOOL DISTRICT DATA FOR DETERMINING
BILINGUAL PROJECT SCHOOLS

	Blanding Elem.	Bluff Elem.	LaSal Elem.	Mex. Hat Elem.	Montez. Cr. Elem.	Monticello Elem.	Monticello HS	Park Tce. Elem.	San Juan H.S.	District
Grades	3-6	K-4	1-6	1-6	K-6	K-6	7-12	K-2	7-12	K-12
Enrollment (1968-69)	438	40	36	88	228	384	310	172	541	2237
Enrollment (1969-70) Projected	450	49	41	150	250	390	315	184	577	2402
Number and % Indian 1968-69	131/ 30%	31/ 77.5%	4/ 11.1%	85/ 96.6%	138/ 60.5%	14/ 3.6%	3/ 1%	77/ 44.8%	172/ 31.8%	655/ 29.3%
Number and % Indian (1969-70) Projected	140/ 31.1%	36/ 73.4%	5/ 12.2%	140/ 93.3%	163/ 65.2%	16/ 4.1%	4/ 1.3%	91/ 49.5%	189/ 32.8%	784/ 32.6%
Number and % Children From Low Income Families (1968-69)	135/ 30.8%	34/ 85%	0/ 0%	85/ 96.6%	125/ 54.8%	30/ 7.8%	16/ 5.2%	80/ 46.5%	175/ 32.3%	680/ 30.4%
Number and % Children From Low Income Families (1969-70)	145/ 32.2%	41/ 83.7%	0/ 0%	135/ 90%	150/ 60%	34/ 8.7%	18/ 5.7%	95/ 51.6%	195/ 33.8%	813/ 33.8%
Experimental and Control Schools-- Based on Above Data		EXP.		EXP.	EXP.			Control Group		
Grades in Bilingual Project		K-1		K-1	K-1			K-1		K-1
Number Children in Project Grades (1969-70) Projected		35		70	80			129		185
Number and % non-English Speaking Children in Project		28/ 80%		65/ 92%	50/ 62.5%			66/ 51.1%		143/ 77.3%
Number English Speaking Children to Participate		7		5	30					42

Table 6

NUMBER OF SUBJECTS IN THE SUB-CATEGORIES OF THE EXPERIMENTAL DESIGN FOR KINDERGARTEN AND FIRST GRADE ACHIEVEMENT

		Indian	Anglo	Total
Kindergarten	Experimental	38		38
	Control	21	25	46
	Total	59	25	84
First Grade	Experimental	38	15	53
	Control	33	22	55
	Total	71	37	108

as to control and experimental groups. A team of three language majors were asked to independently rate each episode on a seven point scale ranging from poor (assigned rating = 10) to excellent (assigned rating = 70). After all test scores were collected and tabulated they were statistically analyzed by use of Analysis of Covariance with pre-test scores used as the covariate and post-test scores as the variate.

Oral English Response

Adjusted mean scores for control and experimental groups on the oral evaluation are contained in Table 7. Scores are recorded for the sub parts of the test as well as a composite. Scores are also reported for kindergarten and first grade as well as male and female. The results of the analysis of covariance are to be found in Appendix A. Table 7 contains the probabilities of each comparison. It can be noted that although the control group adjusted mean is slightly higher than the adjusted mean of the experimental group, differences were small and not statistically significant. Differences between the sexes were negligible with only .03 difference in composite means. As might have been predicted, the first grade adjusted mean scores were significantly higher than those of the kindergarten children with the exception of fluency. First grade subjects scored higher than the kindergarten subjects on the fluency but sub-test the difference was not significant.

California Test of Personality

Results of analysis of covariance on the CTP scores for kindergarten children are reported in Table 8. It will be observed that the only significant differences were found to exist between control Indian and control Anglos and between the sexes. Adjusted means were computed for each of these four groups (See Table 9). It was thus determined that there was no significant difference between control and experimental groups but that control Anglos were significantly higher than control Indians and that females scored significantly higher than males.

Table 7

ORAL ENGLISH RESPONSE POSTTEST ADJUSTED MEAN SCORES WITH THE ORAL ENGLISH RESPONSE AS THE PRETEST FOR KINDERGARTEN AND FIRST GRADE INDIAN PUPILS IN FIVE ELEMENTARY SCHOOLS IN THE SAN JUAN COUNTY

	Fluency	Pronunciation	Grammar	Vocabulary	Response	Composite
Experimental	9.16	10.29	8.68	9.15	9.61	46.71
Control	9.59	10.53	8.89	9.26	10.08	48.26
P	>.05	>.05	>.05	>.05	>.05	>.05
Kindergarten	8.56	9.60	7.76	8.36	8.77	42.95
First Grade	10.19	11.21	9.77	10.05	10.92	52.01
P	>.05	>.05	>.05	>.05	>.05	>.05
Male	9.59	10.00	8.72	9.37	10.04	47.50
Female	9.16	10.73	8.82	9.04	9.65	47.47
P	>.05	>.05	>.05	>.05	>.05	>.05

Table 8

ANALYSIS OF COVARIANCE OF KINDERGARTEN ON THE CALIFORNIA TEST OF PERSONALITY WITH THE PRETEST AS COVARIATE

Source	df	SS	MS	F	P
Class Rooms	6	960.78	160.13		
Groups	2	915.37	457.68	40.31	<.01
Exp. x Con.	1	28.30	28.30	2.49	>.05
Con. Ind. x Con. Ang.	1	877.06	887.06	78.12	<.01
Residual	4	45.41	11.35	0.13	>.05
Sex	1	279.58	279.58	4.85	<.05
Class x Sex	6	250.36	41.73		
Group x Sex	2	19.95	9.97	0.17	>.05
Exp. x Con. x Sex	1	17.76	17.76	0.31	>.05
Con. Ind. x Con. Ang. x Sex	1	2.19	2.19	0.04	>.05
Residual	4	230.41	57.60	0.65	>.05
Error	68	5997.05	88.19		

Table 9

TABLE OF ADJUSTED MEANS FOR KINDERGARTEN PUPILS ON THE CALIFORNIA TEST OF PERSONALITY WITH THE PRETEST AS COVARIATE

Control Indian	52.47
Control Anglo	64.32
Males	56.27
Females	61.77

The analysis of CTP scores for first grade subjects revealed no significant differences. These comparisons can be found in Table 10.

Metropolitan Test Results

To test academic progress the Metropolitan tests were used. Baseline data were obtained by administering the Anton Brenner Gestalt Test of School Readiness to the kindergarten children and the Netropolitan Readiness Test (MRT) to first grade children in September. In May the MRT was administered to the kindergarten children and the Metropolitan Achievement Test (MAT) was administered to first grade children. Subjects in the Bilingual Schools and Control Schools were tested.

Test results were analyzed by use of Analysis of Covariance. Test scores obtained in September were used as the covariate and test scores obtained in May were used as the variate. Results of this comparison for kindergarten children are reported in Table 11. Adjusted mean scores are reported in Table 12. It can be observed that significant differences did exist among groups. The greatest difference occurred between control Anglo and control Indian. Although the difference between experimental and control groups was not statistically significant it is noted that the experimental group adjusted mean was greater than was the mean of the control group. This observation is important since the original hypothesis was that the experimental group would do as well or better than the control group.

The results of statistical analysis of first grade test scores is reported in Table 13 and adjusted means are reported in Table 14. The only significant difference was between Anglo and Indian. The difference between control and experimental composite scores was very slight.

CONCLUSIONS

The number of subjects in the program was small and this report covers only the results of one year's operation. Therefore, the generalization of

Table 10

ANALYSIS OF COVARIANCE OF FIRST GRADE ON THE CALIFORNIA TEST OF PERSONALITY WITH THE PRETEST AS COVARIATE

Source	df	SS	MS	F	P
Class Rooms	7	64.42	9.20		
Exp. vs Cont.	1	0.00	0.00	0.00	>.05
Residual	6	64.42	10.74	0.00	>.05
Ind. vs Anglo	1	0.00	0.00	0.00	>.05
Class Room X Ind. vs Ang.	7	35.40	5.06		
Exp. vs. Cont. X Ind. vs. Ang.	1	0.01	0.01	0.00	>.05
Residual	6	35.49	5.90	0.00	>.05
Sex	1	0.00	0.00	0.00	>.05
Class Room X Sex	7	35.37	5.06		
Exp. vs. Cont. X Sex	1	0.00	0.00	0.00	>.05
Residual	6	35.49	5.90	21.02	<.01
Ind. vs. Ang. X Sex	1	0.00	0.00	0.00	>.05
Class Room X Ind. vs. Ang. X Sex	7	1.68	0.24		
Exp. vs. Cont. X Ind. vs. Ang. X Sex	1	0.00	0.00	0.00	>.05
Residual	6	1.68	0.28	0.00	>.05
Error	67	5272.40	78.69		

Table 11

ANALYSIS OF COVARIANCE FOR KINDERGARTEN PUPILS ON THE COMPOSITE SCORE OF THE METROPOLITAN READINESS TEST WITH THE BRENNER GESTALT TEST OF SCHOOL READINESS AS THE COVERIATE

Source	df	SS	MS	F	P
Class Rooms	6	4106.57	684.43		
Groups	2	2854.48	1427.24	4.56	<.05
Exp. vs Con.	1	604.66	604.66	1.93	>.05
Con. Ind. vs Con. Ang.	1	2249.82	2249.82	7.19	<.05
Residual	4	1252.09	313.02	3.82	<.05
Sex	1	20.05	20.05	0.34	>.05
Class x Sex	6	586.09	97.68		
Group x Sex	2	351.99	175.99	3.01	>.05
Exp. vs Con. x Sex	1	296.03	296.03	5.05	<.05
Con. Ind. vs Con. Ang. x Sex	1	55.96	55.96	0.96	>.05
Residual	4	234.11	58.53	0.71	>.05
Error	69	5655.08	81.96		

Table 12

METROPOLITAN READINESS TEST ADJUSTED MEAN SCORE WITH THE BGT AS THE PRETEST
FOR KINDERGARTEN PUPILS IN FIVE ELEMENTARY SCHOOLS
IN SAN JUAN COUNTY

	Word Meaning	Listening	Alphabet	Matching	Numbers	Copy	Composite
Experimental					12.79		
Control					10.46		
Control Indian					6.75		47.73
Control Anglo					14.19		64.37
Experimental Female					15.01		65.17
Experimental Male					10.57		59.10
Control Female					10.20		54.75
Control Male					10.73		56.10

Table 13

ANALYSIS OF COVARIANCE FOR FIRST GRADE PUPILS ON THE COMPOSITE SCORE OF THE METROPOLITAN ACHIEVEMENT TEST BATTERY I WITH THE METROPOLITAN READINESS TEST AS THE COVARIATE

Source	df	SS	MS	F	P
Exp. vs Con.	1	0.25	0.25	0.00	$>.05$
Ind. vs Ang.	1	6598.69	6598.69	4.53	$<.05$
Exp. vs Con. X Ind. vs Ang.	1	1404.31	1404.31	0.96	$>.05$
Residual	10	14556.56	1455.66	3.90	$<.05$
Error	93	34696.44	373.08		

Table 14

METROPOLITAN ACHIEVEMENT TEST ADJUSTED MEAN SCORES WITH MRT AS THE PRETEST FOR FIRST GRADE PUPILS IN FIVE ELEMENTARY SCHOOLS IN SAN JUAN COUNTY

	Word Knowledge	Word Discrimination	Reading	Arithmetic	Composite
Experimental	22.53	19.57	20.59	50.69	113.28
Control	23.36	22.91	22.83	43.90	113.34
Indian	19.63	19.35	19.11	44.33	102.63
Anglo	26.26	23.12	24.32	50.25	123.99
Experimental Indian	19.84	19.14	19.60	49.04	107.53
Experimental Anglo	25.22	20.00	21.57	52.33	119.03
Control Indian	19.43	19.57	18.61	39.63	97.73
Control Anglo	27.30	26.24	27.07	48.18	128.29

the results should be limited. However, the following conclusions seem to have merit.

1. The bilingual program as conducted in San Juan School District in the State of Utah has been accepted with enthusiasm by the parents of the children involved.

2. All evidence indicated that children in bilingual classrooms are maintaining a self-image as positive as Navajo children who have been more highly integrated into the Anglo culture of the San Juan area.

3. Academic achievement of Navajo children in bilingual classrooms is equal to or greater than Navajo children living in or near Anglo communities.